



*RENEWABLE
ENERGY
PROGRAM*

**CALIFORNIA
ENERGY
COMMISSION**

Emerging Renewable Resources Program

DRAFT GUIDEBOOK

Committee Draft

December 2002
P500-03-001D



Gray Davis, Governor

CALIFORNIA ENERGY COMMISSION

William J. Keese
Chairman

Robert Pernell
Arthur H. Rosenfeld
James D. Boyd
John L. Geesman
Commissioners

Steve Larson
Executive Director

Marwan Masri, *Deputy Director,*
Technology Systems Division

Jim Hoffsis, *Manager*
Technology Market Development Office

Tim Tutt, *Technical Director*
Renewable Energy Program

Tony Brasil, *Account Supervisor*

Dale Trenchel, *Account Lead*

Mary D. Nichols,
Secretary for Resources

These guidelines were formally adopted by the California Energy Commission on XXXXX XX, 2003, pursuant to Public Utilities Code section 383.5, subdivision (h).

TABLE OF CONTENTS

I - INTRODUCTION	I-1
A. PURPOSE	I-1
B. OVERVIEW	I-2
II - WHAT ARE THE ELIGIBILITY REQUIREMENTS	II-1
A. SYSTEM OWNERSHIP	II-1
B. GRID INTERCONNECTION	II-1
C. SYSTEM COMPONENTS	II-1
D. NEW EQUIPMENT	II-2
E. SYSTEM SIZED TO OFFSET ON-SITE ELECTRICITY LOAD	II-2
F. SYSTEM INSTALLATION.....	II-2
G. FIVE-YEAR WARRANTY REQUIREMENTS.....	II-3
H. SYSTEM PERFORMANCE METER	II-3
I. RETAILERS	II-3
J. AUDITS AND INSPECTIONS.....	II-4
III - INCENTIVES OFFERED THROUGH THIS PROGRAM	III-5
A. REBATES OFFERED.....	III-5
1. <i>Primary Rebates</i>	III-5
2. <i>Secondary Rebates</i>	III-5
B. OTHER INCENTIVES MAY AFFECT YOUR REBATE AMOUNT.....	III-6
C. PERFORMANCE-BASED INCENTIVES FOR PHOTOVOLTAIC SYSTEMS 30 kW OR GREATER.....	III-7
D. AVAILABLE FUNDS	III-8
E. FUNDING LIMITS PER PROJECT	III-8
F. ADJUSTMENT OF REBATE LEVELS	III-9
IV - RESERVATION PROCESS.....	IV-1
A. RESERVING A REBATE.....	IV-1
1. <i>Reservation Request Form</i>	IV-1
2. <i>Evidence of Agreement to Purchase</i>	IV-2
3. <i>Itemized Cost of Major Equipment and Labor</i>	IV-2
4. <i>Evidence that Site Electricity Load is Supplied by Eligible Utility</i>	IV-3
5. <i>Vendor Data Record (Form STD-204)</i>	IV-3
6. <i>Submitting Your Complete Reservation Application</i>	IV-3
V - PAYMENT PROCESS	V-1
A. CLAIMING A REBATE PAYMENT	V-1
1. <i>Payment Claim Form</i>	V-1
2. <i>Documentation Confirming Final Payment and System Installation</i>	V-1
3. <i>Building Permit</i>	V-2
4. <i>Five-year Warranty</i>	V-2
5. <i>Utility Interconnection Agreement</i>	V-2
B. CLAIMING A REBATE PAYMENT WITHOUT A PRIOR RESERVATION	V-2
C. SUBMITTING A PAYMENT CLAIM FORM	V-2
D. ASSIGNMENT OF REBATE PAYMENT.....	V-3
E. CAN MY INSTALLED SYSTEM BE DIFFERENT THAN MY RESERVATION?	V-3
1. <i>Extension Requests and Other Substantive Changes</i>	V-4
VI - ELIGIBLE SYSTEM COSTS	VI-1
A. WHAT SYSTEM COSTS ARE ELIGIBLE?	VI-1
B. WHAT COSTS ARE NOT ELIGIBLE?	VI-1

VII - SPECIAL FUNDING.....	VII-1
A. SPECIAL REQUIREMENTS FOR SOLAR SCHOOLS PROGRAM	VII-1
1. <i>Solar Schools Program Overview</i>	VII-1
2. <i>How to Apply for the Solar Schools Program</i>	VII-3
B. SPECIAL REQUIREMENTS OF CUSTOMERS OF LOCAL PUBLICLY OWNED ELECTRIC UTILITIES	VII-4
C. SPECIAL FUNDING FOR AFFORDABLE HOUSING PROJECTS.....	VII-5
APPENDIX 1 - FORMS AND WORKSHEETS	1
APPENDIX 2 - TIPS FOR CONSUMERS	1
D. CHOOSING A CONTRACTOR	1
E. CHOOSING A RETAILER	1
F. HOW MUCH ENERGY DOES A SYSTEM PRODUCE?	1
APPENDIX 3 - CRITERIA FOR LISTING COMPONENTS AS ELIGIBLE	1
A. PHOTOVOLTAIC MODULES	1
B. SOLAR THERMAL	1
C. FUEL CELLS	1
D. SMALL WIND	1
E. INVERTERS.....	2
1. <i>Changes to the Eligible Inverter List</i>	2
F. METERING CRITERIA.....	2
G. OTHER TECHNOLOGIES	2
APPENDIX 4 - MAXIMUM SYSTEM SIZE CALCULATIONS	1
A. MAXIMUM SYSTEM SIZE CALCULATIONS	1
1. <i>New or expanded site electrical load</i>	1
2. <i>Peak load capacity option</i>	1
APPENDIX 5 - LIST OF PUBLICLY OWNED UTILITIES	1
APPENDIX 6 - ATYPICAL INCENTIVE APPLICATIONS.....	1
A. NEW HOUSING DEVELOPMENT.....	1
B. SYSTEMS INSTALLED BY RENEWABLE ENERGY SYSTEM SELLERS OR CONTRACTORS FOR THEIR OWN PERSONAL OR BUSINESS USE.....	2
C. ADDING TO EXISTING SYSTEMS	2
D. SPECIAL REQUIREMENTS FOR LEASED SYSTEMS.....	2

I - Introduction

This *Emerging Renewable Program Guidebook* is one of several guidebooks the California Energy Commission (Energy Commission) has adopted to implement the Renewable Energy Program pursuant to Senate Bill 1038 [SB 1038; (Stats. 2002, Ch. 515)]. It describes the requirements for receiving funding under the Emerging Renewable Program element of the Renewable Energy Program.

The Energy Commission has adopted other guidebooks to address the requirements for the other elements of the Renewable Energy Program and guidelines governing the overall administration of the Renewable Energy Program. The *Overall Program Guidebook* describes how the Renewable Energy Program will be administered and includes information and requirements that apply to all program elements of the Renewable Energy Program.

Applicants for funding under the Emerging Renewable Program must satisfy the requirements contained in both the *Overall Program Guidebook* and this *Emerging Renewable Program Guidebook*. These guidebooks replace *the Overall Guidelines for the Renewable Resource Trust Fund, Fifth Edition* and the previous guidebooks governing the Emerging Renewable Buydown Program (*the Emerging Renewable Resources Account Guidebook, Ninth Edition*). Applications for funding approved under the previous program remain governed by the previous guidebooks until the projects are completed, expired, or cancelled.

The Emerging Renewable Program builds on the experience of the Emerging Renewables Buydown Program (ERBP), which began in 1998 and operated through most of 2002. Over 3800 new systems were installed through the ERBP from 1998 through 2002. Most of these systems utilized solar photovoltaic (PV) technology.

This guidebook is organized to allow the reader to identify areas of interest quickly and find details on program requirements easily. For the purposes of this guidebook, specific terms are shown in bold font when they have a defined meaning.

A. Purpose

The Emerging Renewable Program (ERP) was created to help develop a self-sustaining market for renewable energy systems that supply on-site electricity needs across California. Through this program, the Energy Commission provides funding to offset the cost of purchasing new renewable energy systems.

The goal of the ERP is to reduce the net cost of on-site renewable energy systems to end use consumers, and thereby stimulate demand and increased sales of such systems. Increased sales are expected to encourage manufacturers, sellers, and installers to expand operations, improve distribution, and reduce system costs.

The ERP is one of several program elements within the Energy Commission's Renewable Energy Program. Funding for the Renewable Energy Program is collected from the ratepayers of the three largest investor-owned utilities in California to support existing, new, and emerging renewable electricity generation technologies. For more information about the Renewable Energy Program please visit the Energy Commission's website at [\[www.consumerenergycenter.org\]](http://www.consumerenergycenter.org).

For consumer tips on purchasing a renewable energy system please refer to Appendix 2 . Also see *A Guide to Photovoltaic (PV) System Design and Installation*, June 2001, (P500-01-020) and *Buying a Small Wind Electric System*, February 2002 for further information.

B. Overview

The ERP provides consumers of electricity with a financial incentive to install renewable energy systems on their property. The financial incentive varies based on system size, technology, and type of installation. The incentive is paid once the system is installed and operational. The consumer must apply to the Energy Commission for funding following the protocols in this guidebook.

To qualify for an incentive, both the consumer and the renewable energy system must satisfy a number of requirements. The consumer must receive electricity distribution service from an existing in-state electrical corporation contributing funds to support the program. These electrical corporations are Pacific Gas & Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company. The renewable energy system must utilize an emerging renewable technology, such as solar photovoltaic, solar thermal-electric, fuel cells using renewable fuels, or small wind turbines (of not more than 50,000 watts of rated electrical capacity). The system must also be interconnected to the utility distribution grid, must use new components that are certified or tested to be reliable, and must come with a five-year warranty. In addition, the renewable energy system must generate electricity to offset the consumer's on-site electrical load.

In most cases, an applicant submits a Reservation Request Form (CEC 1308 R1) and supporting documentation to reserve a fixed amount of program funds. Once the Reservation Request Form is reviewed and approved, the Energy Commission sends the applicant a Payment Claim Form that identifies the funds reserved, and the applicant then proceeds to install an eligible system. When the system is completed, the applicant then submits the Payment Claim Form and supporting documentation to the Energy Commission upon installing the eligible system. If the applicant installs an eligible system and submits the Payment Claim Form prior to the expiration date of the reservation, the Energy Commission calculates the incentive the applicant is eligible for and makes payment in this amount.

II - What Are the Eligibility Requirements

Currently, four technologies are eligible for ERP funding. They include the following:

1. **Photovoltaic** - the direct conversion of sunlight to electricity.
2. **Solar Thermal Electric** - the conversion of sunlight to heat and its concentration and use to power a generator to produce electricity.
3. **Fuel Cell** - the conversion of sewer gas, land fill gas, or other renewable sources of hydrogen or hydrogen rich gases into electricity by a direct chemical process.
4. **Small Wind Turbines** - small electricity producing, wind-driven generating systems with a rated output of 50 kilowatts or less.

Other technologies may be added to this category if the criteria identified in Appendix 3 are met to the Energy Commission's satisfaction. Systems that use the above technologies must satisfy the following eligibility criteria as explained in this chapter.

A. System Ownership

Eligible renewable energy systems may not be owned by an electrical corporation as defined in Public Utilities Code section 218 or a local publicly owned electric utility as defined by Public Utilities Code section 9604(d).

B. Grid Interconnection

Eligible renewable energy systems must be permanently interconnected to the electrical distribution grid of the utility serving the customer's electrical load. The site where the system is installed must receive electrical distribution service from Pacific Gas and Electric Company, Southern California Edison Company, or San Diego Gas and Electric Company. Customers of other electrical corporations or local publicly owned electric utilities are not eligible to receive ERP funding except as provided in Chapter VI.

The system interconnection must comply with applicable electrical codes and interconnection requirements. Portable systems are not eligible.

C. System Components

The major system components must be certified or approved as described in Appendix 3. Approved major components are on the Energy Commission's lists of eligible components, which are available on the Energy Commission's website at www.consumerenergycenter.org/buydown/equipment.html or by requesting copies from our energy call center staff at (800) 555-7794.

The applicant should confirm that the components purchased for a system are eligible when applying for ERP funding. The Energy Commission staff will confirm that equipment identified in a reservation application meets eligibility requirements prior to

an application being approved. However, if the applicant begins or completes the installation before the Energy Commission has approved the reservation, equipment lists may have changed, and significant and costly changes may be needed for the system to comply with the eligibility criteria.

D. New Equipment

Any major system components (requiring certification per section C) must be new and must not have been previously placed in service in any other location or for any other application. Equipment purchased or installed more than six months before applying for a reservation is not eligible.

E. System Sized to Offset On-site Electricity Load

For all eligible systems regardless of technology, the system must be sized so that the amount of electricity produced by the system primarily offsets part or all of the customer's electrical needs at the site of installation. The expected production of electricity by the system may not be more than twice the historical or expected electrical needs of the electricity consumer at the site of installation. For example, if a purchaser's historical load at the site of installation is 10,000 kilowatt hours (kWh) of electricity per year, the system may be sized to produce no more than 20,000 kWh per year (100 percent more than the historical need). See Appendix 4 for further details on how to determine the maximum allowed system size.

F. System Installation

All systems, if installed under contract, must be installed by appropriately licensed California contractors in accordance with rules and regulations adopted by the State of California Contractors' State Licensing Board. Installation contractors must have an active A, B, or C-10 license, or a C-46 license for photovoltaic systems.

The Energy Commission intends to require that photovoltaic systems installation contractors be certified to the testing requirements of the North American Board of Certified Energy Practitioners (NABCEP) photovoltaic protocols after these protocols are finalized.

Systems may also be self-installed by the purchaser (owner). While such installations are eligible without the licensing requirements listed, they will be eligible only for the secondary rebates described in Chapter III.

In all cases, systems must be installed in conformance with the manufacturer's specifications and with all applicable electrical and building codes and standards¹.

¹ For information on restrictions placed on owner-builders or self-installers, contact the Contractor's State License Board at 1-800-321-CSLB to obtain a current edition of the Contractor's License Law and Handbook.

G. Five-year Warranty Requirements

All systems eligible for primary rebates must have a minimum five-year warranty to protect the purchaser against system or component breakdown. The warranty must cover five years and provide for no-cost repair or replacement of the system or any defective components, including any associated labor, for five years. The warranty may be provided in combination by the manufacturer and installer.

The warranty must also cover the system against electrical output that is more than ten percent below that estimated in the final confirmation claim form (Form CEC 1038 R3).

All systems eligible for secondary rebates must have a minimum five-year warranty to protect the purchaser against defective major system components. Major components are defined as photovoltaic modules, wind turbine generators, solar thermal engines and dishes, fuel cell reformers and cells, and inverters. For secondary rebates, the warranty need not cover the labor costs associated with removing or replacing defective major components.

H. System Performance Meter

All systems must be installed with a performance meter so that the customer can determine the amount of energy produced by the system. However, any system that is installed before March 31, 2003 may be given a reservation without such a meter by providing a copy of the signed off building permit with the reservation request. The meter must measure the total energy produced by the system in kilowatt hours (or watt hours) and have a manufacturer's uncertainty specification of plus or minus five percent. The meter must retain the kilowatt-hour production data in the event of a power outage and must provide a display of system output that the customer can easily understand. A system need not include a separate meter if the system is installed with an inverter that contains internal metering and display equipment that meets the meter requirements above.

I. Retailers

To participate in the ERP, retailers must provide the Energy Commission with the following information:

- 1) Business name, address, phone, fax, and e-mail address
- 2) Owner or principle contact
- 3) Business license number
- 4) Contractor license number (if applicable)
- 5) Proof of corporate, LLC, LLP, or other annual filings, as required with the California Secretary of State (or appropriate state)
- 6) Reseller's License

This information may be submitted at any time that a retailer wishes to become eligible for the ERP. To remain eligible, the information must be resubmitted annually, by March 31, using form CEC 1038 R5. This information must be on file with the Energy Commission before a retailer can submit any reservation request or payment claim. The Energy Commission will compile this retailer information and make it available to consumers to assist them in making a purchase decision and effectuating remedial action. Send the information by FAX to (916) 653-2543 or by mail to:

Emerging Retailers List
California Energy Commission
1516 - 9th Street, MS-45
Sacramento, CA 95814-5512

J. Audits and Inspections

The Energy Commission will conduct audits of the applications it receives to verify that the information provided in the applications is true and correct. The Energy Commission will also conduct inspections to verify systems are operating properly and installed as specified in the reservation request and payment claim applications.

III - Incentives Offered Through This Program

A. Rebates Offered

The rebates offered through this program vary by system size, technology and type of installation. The rebates offered for the most common applications are described below. Additionally, special rebates are available for systems installed at “affordable housing,” “public schools,” or in the service territories of local publicly owned electric utilities. Because these special rebates target specific groups or classes of customers, they are discussed separately in Chapter VII of this guidebook.

1. Primary Rebates

Primary rebates are available for systems that are sold at retail to the final purchaser, installed by a licensed contractor with an active A, B, C-10 (or C-46 for photovoltaic systems only) license, and covered by a full five-year warranty as specified in this guidebook. These installations help foster the program goals of improving installation quality and expanding the market. System installations not meeting these requirements (such as owner-installed systems) may still qualify for a lower, secondary rebate as provided below.

2. Secondary Rebates

Secondary rebates are available for systems that are purchased below retail or do not readily meet the primary rebate program requirements. These include the following:

- Owner installed systems (includes contractors installing their own systems);
- Systems installed on the property of renewable energy equipment manufacturers, vendors, retailers, and the like;
- Installations where the full five-year warranty requirements cannot be or are otherwise not met by an independent party; or
- Expansions of pre-existing systems that were previously funded by the Energy Commission. Additions to all other pre-existing systems are not eligible.

Table 1 lists the primary and secondary rebate levels available by size category and technology type at the beginning of the ERP; these rebate levels are expected to decline over time as described below.

Table 1: Rebates Available for Emerging Renewable Systems

Technology Type	Size Category	Primary Rebate	Secondary Rebate
Photovoltaic	<30 kW	\$4.00	\$3.00
	=>30 kW	Performance Incentive	
Wind	First 5 kW	\$2.50	\$2.00
	Increments above 5 kW up to 30 kW	\$1.50	\$1.00
	=> 30 up to 50 kW	Performance Incentive	
Solar Thermal Electric and Fuel Cells using a renewable fuel*	< 30 kW	\$4.00	\$3.00
	=>30 kW	Performance Incentive	
* Fuel cells that operate on non-renewable fuels and are used in combined heat and power applications may be incorporated when funds from other sources are no longer available.			

The Energy Commission will monitor reservations and payments for small systems to insure that systems that are 10 kW and below receive an appropriate share of funding.

B. Other Incentives May Affect Your Rebate Amount

Incentives received from sources other than the ERP that lower the cost of a generating system may affect the rebate amount you receive from the Energy Commission. Fifty percent (50%) of any incentive received or expected must be subtracted from the rebate amounts listed in Table1 if they are from a utility incentive program, a state of California sponsored incentive program, or a federal government sponsored incentive program, other than tax credits. Under no circumstance will the incentive from the ERP exceed the net purchase price of the system (before ERP incentives). No system may be issued a reservation or receive payment from the ERP if the system is also participating in the California Public Utilities Commission approved Self Generation Incentive Program and the ERP.

See Chapter VII of this guidebook for information regarding rebate levels for local publicly owned electric utility service areas, public schools, and affordable housing.

C. Performance-Based Incentives for Photovoltaic Systems 30 kW or Greater

Incentive payments for systems 30 kW or greater will be paid annually over a three year period, based on the energy produced by the system. Systems must be installed and interconnected with the utility within an initial 18 month reservation period after application. The reservation expires if the system is not installed within this initial reservation period. If the system is completed within the initial reservation period, funds will be reserved for a further performance reservation period extending three years from the installation date. For both the initial and performance reservation periods, funds will be reserved assuming the highest rate of energy production for the system as applicable from Tables 2 through 4 below. Annual payments would be made based on the system's performance over each one-year period.

The incentive payments are determined based on the energy produced (kWh) each year and the system size (rated output (kW)) of the primary generating equipment. The inverter efficiency is not used in this calculation because the actual performance will be measured. For photovoltaic systems, the rated output is determined by the PV USA Test Conditions (PTC) rated output of the modules. For solar thermal electric and renewable fuel cell systems, the rated output is the determined by the nameplate rating of the system. For wind turbines, the rated output is provided from the Energy Commission's list of eligible equipment. The available incentive payments, per kW of the system output, is shown in **Table 2**, **Table 3**, and **Table 4**.

Table 2: Performance-Based Payment for Photovoltaic Systems

Annual Energy Output (kWh/kW)	Annual Incentive Payment per Module Array kW _(PTC) *
Less than 1000	\$0.00
1000 to 1250	\$475.00
1251 to 1500	\$525.00
Greater than 1500	\$575.00

*Annual payment is only for first three years.

Example: If a photovoltaic system with a 100 kW array produced 130,000 kWh (or 1300 kWh/kW) the first year, the project would receive a payment of \$525/kW multiplied by 100 kW or an amount equal to \$52,500. If the facility qualified for the same incentive for each of the next two years, the total incentive would equal \$157,500.

Table 3 Performance-Based Payment for Wind Energy Systems

Annual Energy Output (kWh/kW)	Incentive Payment per kW
Less than 1400	\$0.00
1400 to 1800	\$270.00
1801-2600	\$300.00
Greater than 2600	\$325.00

*Annual payment is only for first three years

**Table 4: Performance-Based Payment for Solar Thermal Electric
and Fuel Cell Systems**

Annual Energy Output Fuel Cell (kWh/kW)	Annual Energy Output Solar Thermal Electric (kWh/kW)	Annual Incentive Payment per Module Array kW(PTC)*
Less than 3500	Less than 1750	\$0.00
3500 to 5250	1750 to 2600	\$475.00
5251 to 7000	2601 to 3500	\$525.00
Greater than 7000	Greater than 3500	\$575.00

*Annual payment is only for first three years.

System metering must be accomplished through an independent meter reading service or sealed internet based metering system. As a variety of metering systems are available, the applicant must specify the proposed metering system for Energy Commission review and approval. Meters may also be selected from the California Public Utility Commission list of eligible metering equipment available at:

[\[www.cpuc.ca.gov/static/industry/electric/electric+markets/metering/index.htm\]](http://www.cpuc.ca.gov/static/industry/electric/electric+markets/metering/index.htm).

In this case, meter readings would be made by the Energy Commission or a third party service.

D. Available Funds

As discussed in the *Overall Program Guidebook*, 17.5% (at least \$118,125,000) of funds are allocated to this account. Of this amount, \$10 million is allocated to performance-based incentives for systems 30 kW or larger in size.

E. Funding Limits per Project

No single project can receive more than \$2,000,000 in total incentive payments from the ERP.

F. Adjustment of Rebate Levels

Primary and secondary rebate levels will be reduced by 25 cents per watt every six months beginning on July 1, 2003 (and every January and July 1st thereafter), unless the Energy Commission formally decides to rescind a scheduled rebate level change. If the Energy Commission takes no action, the incentive levels will be reduced automatically as targeted. The intent is to keep the rebates at a level that best meets program goals and provide program participants with sufficient time to adjust to any changes.

IV - Reservation Process

Reservations or payments are made on a first come, first served basis for completed applications. Incomplete applications will not be processed until all appropriate documentation is provided. An approved reservation means that funds are reserved for the system as described, but no payment will be made unless a system is installed that meets all applicable ERP requirements. Also, for systems with an installed system price significantly higher than average, the Energy Commission may require that additional justification be provided.

A. Reserving a Rebate

This section describes the paperwork that is required to reserve funding. Please be sure to submit a complete reservation application and provide all the supporting documentation described below to receive your reservation quickly. The reservation process will be delayed if incomplete and incorrect information is received. To obtain a rebate reservation, you must submit the following five items:

- Reservation Request Form (CEC-1038 R-1)
- Evidence of an agreement to purchase a system
- Itemized costs of major components and labor costs
- Evidence that site electricity load is supplied by an eligible utility
- Vendor data record (Form STD-204)

(Once a system is completed, the applicant will need to submit a building permit showing final inspection signoff, a full five-year warranty for the system, a utility interconnection agreement, and documentation confirming final payment and installation to claim the rebate payment and demonstrate the system complies with eligibility requirements. These items are discussed in detail in Chapter V.)

Chapter VII covers the special requirements for the Solar Schools Program, customers of publicly owned utilities, and the Solar Rebates for Affordable Housing Program. Appendix 6 covers new housing developments, systems installed on property owned by retailers and/or contractors, hybrid systems, and leased systems.

1. Reservation Request Form

The purchaser of the system must always sign the Reservation Request Form. If the seller of the system is designated as the payee, the seller (retailer or wholesaler) must also sign. Eligible equipment sellers need to file business information with the Energy Commission to be eligible to participate in the program. Reservation requests that identify ineligible retailers will not be approved until the required business information is filed with the Energy Commission.

Detailed instructions are on the back of the form. Appendix 1 includes a blank copy of the Reservation Request Form and accompanying instructions. To obtain additional blank forms, call the Energy Commission Call Center at (800) 555-7794 or download the forms online from the following Energy Commission website: [\[www.consumerenergycenter.org/buydown\]](http://www.consumerenergycenter.org/buydown).

2. Evidence of Agreement to Purchase

For most systems, the purchaser must submit a copy of the system or equipment purchase agreement(s) and installation contract(s) with their application for a rebate reservation. The copies may include one contract where the equipment and installation are provided by the same company or may be two or more contracts for separate purchase(s) of equipment and a contract for labor. All installation contract(s) must comply with the Contractors State License Board (CSLB) requirements. The equipment purchase agreement(s) and installation contract(s) must constitute signed agreement(s) to proceed with the purchase and installation of the specified system, including identification of and signatures of the buyer and seller. The agreements must clearly identify or state the following:

1. the quantity make and model number as shown on the lists of eligible equipment for the following:
 - photovoltaic modules, wind turbines, or other generating equipment
 - inverters and system performance meters;
2. the physical address of the location where the equipment is to be installed;
3. the payment terms, the total cost of the contract, the expected rebate amount from the Energy Commission, and any other limited conditions of sale.

(To reduce concerns with signing a contract before a rebate reservation request is submitted and approved, we recommend that the agreement(s)/contract(s) include a statement indicating that the agreement is conditional upon receiving the expected reservation approval from the Energy Commission.)

Owner installed systems may qualify for a secondary rebate and may submit an agreement for the purchase of equipment (as above), but need not submit an installation agreement.

Alternately, the purchaser of an owner-installed system may demonstrate a commitment to purchase the system by submitting invoices or receipts showing that a down payment of at least ten percent of the major equipment price has been paid. The information in item 1 in the list above must be clearly identified on the invoices and receipts.

3. Itemized Cost of Major Equipment and Labor

If not already included in the purchase agreement or contract, the individually itemized costs for the photovoltaic modules, wind turbines, inverters, and labor must be identified by providing supplemental information.

4. Evidence that Site Electricity Load is Supplied by Eligible Utility

If the installation location currently has electrical service, the purchaser must submit a copy of the utility bill showing the address of the installation site, electric energy usage, and the utility name.

If the installation location is a new facility without electrical service, the purchaser must submit a signed statement identifying the electric utility that will be providing service. The statement must also acknowledge that a utility bill or other documentation identifying the physical address of the installation, the electric utility provider at the site, and the expected electricity usage at the site will be provided before a rebate payment is made.

Documentation must show that the annual on-site electrical load justifies the proposed system size before payment will be made. Where electrical service is not currently provided, the applicant can submit a statement signed by a qualified architect, engineer, or electrical contractor indicating that the requisite electricity consumption will occur at the site.

5. Vendor Data Record (Form STD-204)

This form must be completed by the person or business entity receiving the rebate payment. If the designated payee has submitted a complete STD-204 form with a prior application, the payee may identify the payee identification number assigned to the prior application form instead of submitting a new form.

6. Submitting Your Complete Reservation Application

The Reservation Request Form may be delivered by FAX to (916) 653-1435 or by mail to:

Emerging Renewable Program
California Energy Commission, Accounting Office
1516 - 9th Street, MS-2
Sacramento, CA 95814-5512

Reservation requests will not be processed and no funding will be reserved if an application is not complete or legible. The application will be approved for a reservation based on the date it is deemed complete and not the date it was first submitted. If the reservation request application is incomplete, the Energy Commission may request the provision of missing or unclear information from the appropriate party (purchaser, equipment seller, or installer) to process the request. In that event, the Energy Commission will allow the submitting party 30 days to respond with the information. If missing information is not submitted within 30 days of the Energy Commission's request, the application will be returned to the purchaser and will not be processed further unless resubmitted with the required information.

If you qualify for one of the special rebates (schools, affordable housing, or other), see Chapter VII for further paperwork requirements.

The amount of the rebate available is expected to change during the term of the program. Therefore, the Energy Commission recommends that applicants wait to order or install system equipment until after they receive a confirmation indicating the amount of funding that has been reserved for their rebate.

V - Payment Process

A. Claiming a Rebate Payment

To receive payment of your rebate, you must make a claim for payment before the expiration of your reservation. Once a system is installed, the following documents must be submitted to claim a rebate payment:

- Rebate Payment Claim Form (CEC 1038 R2)
- Documentation confirming final payment and system installation
- Initial building permit application and final signoff
- Five-year warranty for the system
- Utility interconnection agreement

1. Payment Claim Form

In most cases, the parties entering into the purchase and installation agreement(s) (seller, installer, and/or purchaser) must read, sign, and date the Payment Claim Form (CEC 1038 R2). If the purchaser alone applied for and is to receive the rebate, only the purchaser need sign the Payment Claim Form.

Any changes to the information provided on the previously submitted Reservation Request Form must be noted in the space provided. If additional space is required to note such changes, additional pages may be attached to the form. Changes in equipment from the original application or other changes may affect the eligibility and amount of the rebate.

2. Documentation Confirming Final Payment and System Installation

Applicants must submit final project cost documentation clearly identifying what work was done and how much was paid. Cost documentation must show proof of the amount paid and provide sufficient information to identify the equipment and labor purchased clearly. To meet this requirement, you must submit final invoices or a copy of the final contract. The actual amount paid by purchaser to the seller must be clearly indicated. Also, the invoice/contract must clearly indicate the extent to which the Energy Commission's rebate lowered the cost of the system to the purchaser.

The Energy Commission reserves the right to require that copies of cancelled checks, credit card statements, or equivalent documentation be submitted to substantiate payment of the claimed eligible project cost. Applicants must explain the difference if the final price paid by the applicant is different from that price shown on any contract or invoice previously submitted with a Reservation Request Form.

3. Building Permit

Submit a copy of the building permit and the final inspection signoff upon completion of system installation. The name and address on the building permit must match that shown on the Payment Claim Form.

4. Five-year Warranty

A standard full five-year warranty form (CEC 1038 R-3) must be completed and signed by the appropriate party(ies) and given to the purchaser. Submit a copy of this warranty with your payment request.

5. Utility Interconnection Agreement

A copy of the utility interconnection agreement must be submitted to verify that the utility approved the operation of the system. The agreement must show that the system met the utility interconnection requirements at the address of the installed system. If your reservation is close to expiration, you may submit your payment application without the utility interconnection agreement and your reservation will not expire; however, payment will not be made until it is provided.

B. Claiming a Rebate Payment Without a Prior Reservation

If a rebate payment is claimed for a system not previously approved for a rebate reservation, the Payment Claim Form must also be accompanied by a completed and signed Reservation Request Form (CEC 1038 R1). The submittal should meet all requirements needed for approval and payment as previously described above. Applicants without a prior reservation should be aware that program eligibility requirements may have changed and their installed systems may require significant and costly changes prior to payment.

C. Submitting a Payment Claim Form

The payment claim must be submitted to the Energy Commission address shown below by mail by 5:00 p.m. on or before the expiration date specified on the Payment Claim Form. Claims not received by the expiration date or otherwise not eligible will be returned to the purchaser along with a written notice stating the reasons that the claim was rejected. If the claim is made after the expiration date, the purchaser will have to re-apply subject to the eligibility requirements, incentives, and funding available at that time.

All required forms and supporting documentation shall be mailed to:

Emerging Renewable Program

California Energy Commission, Accounting Office
1516 9th Street, MS-2
Sacramento, CA 95814- 5512.

Except as noted below, the Payment Claim Form cannot be submitted by telefax because original signatures are required on the Payment Claim Form to process rebate payments. Be sure to keep a copy of the Payment Claim Form together with the purchase agreement, contract, receipts, evidence of payment, building permit, and final signoff, etc. for your records. If necessary to verify compliance with the expiration date of a reservation, completed Payment Claim Forms may be submitted by telefax to (916) 653-1435, provided that the original forms are subsequently submitted by mail. Faxed claims will not be reviewed until the original forms are received.

The Energy Commission intends to make incentive payments within 30 days of receipt of a complete rebate payment claim application. Payment will be made to the retailer or purchaser, as designated on the Reservation Request Form (CEC-1038 R2), and will be mailed to the address provided by the recipient on the Vendor Data Record (Form STD-204), previously submitted to the Energy Commission.

D. Assignment of Rebate Payment

The designated payee of the rebate payment may assign their right to receive the payment to a third party by completing the Reservation Payment Assignment Form, CEC-1038 R-3, and submitting it with their Payment Claim Form, CEC 1038 R2, to the Energy Commission address noted above. The Reservation Payment Assignment Form may not be submitted by telefax as original signatures are required to process the assignment. Payees that assign their rebate payment to a third party will still be reported as the recipients of said payments for tax purposes and issued informational tax documents to the extent required by law.

E. Can My Installed System Be Different Than My Reservation?

The Energy Commission expects a system to be installed as described in the Reservation Request Form, but recognizes that minor changes may result during installation and that substantive changes may be necessary in extraordinary circumstances. Minor changes do not require prior approval, but must be documented on the Payment Claim form. These changes include increases and decreases in the size of the system (while staying within the Energy Commission size categories) or changes from one type of certified component to another. Any changed rebate amount that occurs is subject to availability of funding.

1. Extension Requests and Other Substantive Changes

Substantive changes, such as change of purchaser, location, or expiration date of reservation, require prior approval by the Energy Commission's Renewables Committee and can be considered if requested in writing. Each request must describe the need for the change and must document the following:

1. Circumstances beyond the control of the reservation holder that prevent the system from being installed as described under the reservation.
2. Neither the holder, retailer, nor installer knew or had reason to know of the above circumstances (Criteria 1) at the time the current reservation was issued.
3. The holder, retailer, or installer has incurred documented costs or expenses equaling no less than 25 percent of the original reserved system's total cost, and said costs or expenses are unrecoverable unless the requested change is approved. These costs can be incurred either through the purchase of system equipment or by other construction costs expressly for the purpose of installing the reserved system.
4. There are no other known obstacles in the way of completing the project within the extension period.
5. The requested change would otherwise comport with all of the eligibility requirements of the Program.

A request to change the expiration date of the reservation must be limited to three months of additional time for reservations concerning single small systems and six months of additional time for all other system sizes and group reservations for multiple systems.

Any requests made within 30 days of the reservation expiration date shall include an explanation that a more timely request was not possible under the circumstances. The program manager will notify requesting parties of a decision on their request within 30 days of the receipt of a complete request. Approval of a request for a change in purchaser location or expiration date will not change or modify any other reservation condition.

VI - Eligible System Costs

In most cases, the system cost will not effect the eligible incentive amount, but is needed for a variety of reasons. First, the Energy Commission is interested in having information about system prices to evaluate future rebate levels and monitor whether the program goals are being achieved. Second, some of the special programs have price limits to be eligible for added incentives, or total costs may be needed to calculate the appropriate rebates for the Solar Schools Program and the Affordable Housing Program

A. What System Costs Are Eligible?

In addition to the cost of permits issued by local building departments or appropriate government entities to install the electricity generation system and sales tax, the program covers only the following specific eligible components and equipment plus:

Photovoltaics: The photovoltaic cells, modules, mounting or tracking structures, wire, inverters, foundation (for free-standing systems), simple kW or kWh system performance meters, and utility required interconnection equipment.

Small Wind: The wind turbine, tower, wire, inverter, foundation (for free standing systems), simple kW or kWh system performance meters, and utility required interconnection equipment.

Solar Thermal: The concentrating and collecting apparatus, tracking and mounting structures, wiring, inverters, foundation (for free-standing systems), simple kW or kWh system performance meters, and utility required interconnection equipment.

Fuel Cells: The renewable gas pre-treatment equipment (but not the gas collection or production equipment), fuel processor, cell stacks, inverter and power conditioning equipment, cooling equipment, foundation (for free-standing systems), simple kW or kWh system performance meters, and utility required interconnection equipment.

B. What Costs Are Not Eligible?

Many of the system costs included in purchaser's sales or installation contracts may not be eligible. The purchaser or retailer must provide details to separate these costs from eligible costs. The cost of any equipment to store the electricity produced is not eligible. The cost of tools is not eligible.

Other ineligible costs include items that are not typically required for a given eligible system installation. These ineligible costs include, but are not limited to, tree trimming, re-roofing, roof repairs or reinforcement, landscaping, relocating vent pipes, and moving HVAC or other equipment. Additionally, financing fees or costs incurred by either the customer or retailer are ineligible.

VII - Special Funding

This section describes special funding and the corresponding requirements for select groups or class of customers. The funding is available for systems installed at the following locations: public schools, local publicly owned electric utility service areas, and affordable housing projects.

A. Special Requirements for Solar Schools Program

Pursuant to Interagency Agreement No. R500-02-006, the Energy Commission and the California Power Authority have established the Solar Schools Program to provide a higher level of funding for public schools to encourage the installation of photovoltaic generating systems at more school sites. The Solar Schools Program is a subset of the Emerging Renewable Program and is funded through the ERP and the Attorney General's Alternative Energy Retrofit Account (AGAERA). The contribution from the AGAERA may be increased up to \$25 million under the Interagency Agreement.

1. Solar Schools Program Overview

The Solar Schools Program provides up to 90% of the cost of an eligible photovoltaic generating system installed for \$8.50 per watt or less. The ERP portion of the program covers the standard rebate as described in Chapter III. The AGAERA fund covers an additional rebate amount above that offered for other program participants so that a qualifying school or school district pays only 10 % of the total cost of an eligible system. The remaining 10% balance may be financed through a loan from the Energy Commission's Energy Efficiency Financing Program² or through a loan from another public agency.

The Solar Schools Program is limited to public schools, kindergarten through 12th grade, that receive electric distribution service from Pacific Gas & Electric Company (PG&E), Southern California Edison (SCE), or San Diego Gas & Electric Company (SDG&E). Eligible schools must have installed high efficiency fluorescent lighting (T8 lamps and electronic ballasts) in at least 80% of classrooms or have implemented other energy efficient measures with equivalent or greater energy savings as determined by the Energy Commission.

An eligible school must also establish a curriculum tie-in plan to educate students on benefits of solar energy. The California Power Authority, in conjunction with the California Department of Education (CDE), has established minimum requirements for curriculum tie-in plans that must be satisfied. The CDE requires that, at a minimum, the

² For information on the Energy Commission's Energy Efficiency Financing Program see the Energy Commission's website at www.energy.ca.gov/efficiency/financing, or contact Virginia Lew (916) 654-3838.

curriculum tie-in plan explain how the photovoltaic generating system will be incorporated into the education plan of the participating school. The plan must outline the involvement of teachers and students, and indicate what will be done and by whom (named and with contact information). Contact Steve Newsom at the California Department of Education at (916) 322-2482 (Fax: 916 323-5726) for further information regarding the requirements in the curriculum tie-in plans.

Funding under the Solar School Program is available only for photovoltaic generating systems that satisfy the requirements of the ERP. In addition, the total cost to purchase and install the system may not exceed \$8.50 per watt as described herein. (See "Instructions for Completing CEC 1308 R1 Reservation Request Form" for instructions for calculating a system's total rated output in watts.) If the total cost of the system and installation exceeds \$8.50 per watt, the system is not eligible for the higher level of funding under the Solar Schools Program, but may still qualify for funding under the Emerging Renewable Program. The Energy Commission will only consider eligible system and installation cost as described herein.

Funding under the Solar Schools Program is limited to \$229,500 per qualifying school district on a total expenditure of \$255,000³. In addition to the funding cap per district, AGAERA funds are limited by electric service territory and are proportionally allocated to the service territories of PG&E, SCE, and SDG&E based on the electric power sales of these utilities. The initial allocation of AGAERA funds is 45% to schools in PG&E's service territory, 45% to schools in SCE's service territory, and 10% to schools in SDG&E's service territory. The initial allocations may be adjusted during the course of the Solar School Program as needed, and funds from one utility service territory may be reallocated to another utility service territory if funds go unused.

The Solar Schools Program uses a two-stage rebate reservation process to accommodate the process and additional time needed for approving school projects. The first stage is the issuance of a preliminary rebate reservation, which is based on evidence of school eligibility and commitment and expires six months from the date of issue. The preliminary rebate reservation allows the Energy Commission to set aside program funds while providing schools time to solicit project bids, secure a system vendor, installer, and/or contractor, and start the process for securing the necessary approvals. The second stage is the application for a rebate reservation. To be approved, the reservation request and accompanying paperwork must meet the requirements of the ERP specified herein. After the system has been installed, the school must submit a claim for payment and accompanying final paperwork.

Schools that do not meet the requirements of the Solar Schools Program may still apply for funding under the Emerging Renewable Program.

³ The Solar Schools Program provides 90% of net system costs up to the equivalent of 30kW per school district. As total system cost must not exceed \$8.50 per watt, the maximum available incentive per school district is \$229,500 (30kW x \$8.50/Watt x 1,000W/kW x 90%).

2. How to Apply for the Solar Schools Program

To apply for the Solar Schools Program, schools or school districts must submit the following items.

1. **Solar Schools Program preliminary reservation request form** (CEC 1308 R5). This form is included in Appendix 1. The Solar Schools Program preliminary reservation request form must be completed and submitted with one or more school board resolutions of support, documentation of the school's installation of energy efficient lighting, or other comparable energy efficient measures, and written confirmation of an approved curriculum tie-in plan.

Fax the form and required attachments to (916) 653-2543, ATTN: Solar Schools Program or mail to Solar Schools Program, California Energy Commission, 1516 Ninth Street, MS-45, Sacramento, CA 95814-5512. Each of the required attachments is addressed separately below.

a. School Board Resolution(s) - Provide one or more board resolutions stating support for the solar project, energy efficiency project, and curriculum tie-in plan for the school at which the photovoltaic system will be installed. Resolution(s) must state the school district intends to install an eligible photovoltaic system at the specified site, solicit bids for the purchase and installation of said system, and limit the total cost of the system and installation to no more than \$8.50 per watt. The resolution(s) must also state that the school district's capability and commitment to oversee and pay for the operation and maintenance (internally or with 3rd party contract) of any photovoltaic system funded through the Solar Schools Program.

b. Evidence of Energy Efficiency Lighting - Provide evidence that at least 80 percent of the school's classrooms use high efficiency fluorescent lighting (T8 lamps and electronic ballasts) or that the school has implemented other energy efficient measures with equivalent or greater energy savings as determined by the Energy Commission. Checking the box in Section 5 of the Solar Schools Program preliminary reservation request form (CEC 1308 R5) and signing this form is sufficient to show the use of high efficiency fluorescent lighting (T8 lamps and electronic ballasts) in at least 80 percent of the school's classrooms. Additional evidence is required if other energy efficient measures with equivalent or greater energy savings have been installed. For further information on energy efficiency, please contact the Energy Commission at (916) 654-3838.

c. Approval of Curriculum Tie-in Plan - Submit a copy of the Photovoltaic Curriculum Tie-In Plan Certification form available online at: [\[www.consumerenergycenter.org/solar_schools\]](http://www.consumerenergycenter.org/solar_schools).

d. Utility bill - If the installation location currently has electrical service, the purchaser must submit a copy of the utility bill showing the address of the installation site, electric energy usage, and the utility name.

2. **Reservation Request form and accompanying paperwork.** Before the preliminary reservation expires, a school must apply for a rebate reservation by submitting a reservation request form (CEC-1308 R1), proof of agreement to purchase the specified system, proof of utility interconnection to PG&E, SCE, or SDG&E showing the physical address of the school, STD-204 form, and documentation of other incentives (if any) as described above. In addition to the requirements specified above, the proof of agreement to purchase must clearly specify that the total cost of the system and installation does not exceed \$8.50 per watt and must itemize all labor and equipment included in the purchase price. Additional blank forms can be obtained by calling the Energy Commission Call Center at 1-800-555-7794 or from the Energy Commission website at: [\[www.consumerenergycenter.org/buydown\]](http://www.consumerenergycenter.org/buydown). It is preferred and suggested that the form be delivered by FAX to (916) 653-1435. If sent by mail, it should be addressed to:

Emerging Technologies Solar Schools Program
California Energy Commission
Accounting Office
1516 - 9th Street, MS-2
Sacramento, CA 95814-5512.

No funding will be reserved until the Energy Commission receives all information and documentation required for the Reservation Request Form. Reservation Request Forms will not be processed if they are not complete, legible, or accompanied by the supporting documentation. In this case, the Energy Commission will request the needed information to process the request form and will provide the submitting party 30 days to respond with the information. If the information is not submitted within this time, the Reservation Request Form will be returned to the submitting party and not processed further unless resubmitted with the required information.

B. Special Requirements of Customers of Local Publicly Owned Electric Utilities

Customers of local publicly owned electric utilities are eligible for incentives under Assembly Bill 29x [AB 29x, (stats. 2001-2002, 1st extraordinary session, ch. 8)]. Systems purchased and installed after December 19, 2001 are eligible provided the systems meet the requirements specified herein. Electricity customers of local publicly owned electric utilities will remain eligible for this program on a first come first served basis until the \$8 million in funding under AB 29x is exhausted. For purchaser's receiving distribution service from a local publicly owned electric utility, the combined electrical output of all emerging renewable energy systems installed at the purchaser's site cannot exceed 10 kW.

For systems installed in a local publicly owned utility area that has an incentive program of its own, a reservation request must include a letter from the utility stating whether the system has received or will receive any incentive from that program. The letter must also include the total amount of the incentive, if any. Systems that receive incentives from a local publicly owned electric utility shall not receive reservations or incentives from that utility and this program totaling more than \$4.00 per watt.

In addition to meeting ERP requirements, eligible public schools may also qualify for an additional rebate amount of \$3.50 per watt (from AB 29x funds) if they limit the total cost of the system and installation to no more than \$8.50 per watt and do the following:

a. School Board Resolution(s) - Provide one or more board resolutions indicating the following:

- stating support for the solar project, and curriculum tie-in plan for the school at which the photovoltaic system will be installed.
- stating that the school district intends to install an eligible photovoltaic system at the specified site.
- stating the school district's capability and commitment to oversee and pay for the operation and maintenance (internally or with 3rd party contract) of any photovoltaic system funded.
- stating that at least 80 percent of the school's classrooms use high efficiency fluorescent lighting (T8 lamps and electronic ballasts) or that the school has implemented other energy efficient measures with equivalent or greater energy savings as determined by the Energy Commission.

b. Approval of Curriculum Tie-in Plan - Submit a copy of the Photovoltaic Curriculum Tie-in Plan Certification form available online at:
[\[www.consumerenergycenter.org/solar_schools\]](http://www.consumerenergycenter.org/solar_schools).

C. Special Funding for Affordable Housing Projects.

Pursuant to Assembly Bill 58 [AB 58 (stats. 2002, ch 836)], the Energy Commission has established an additional rebate for photovoltaic systems installed on affordable housing projects. Affordable housing projects may qualify for an extra rebate (up to 50 percent higher) than that normally offered if the following additional criteria are met:

1. The Affordable Housing Project was undertaken pursuant to sections 50052.5, 50053, or 50199.4 of the Health and Safety Code.
2. Each residential unit has an individual meter.
3. The total installed cost of the system does not exceed \$8.50 per watt (CEC rated).
4. The total incentive does not exceed 75 percent of the system cost.
5. Housing Project has adopted measures to promote energy efficiency as evidenced by receipt of an energy efficiency rebate from the Energy Commission or applicable electric utility provider. See [\[www.consumerenergycenter.org\]](http://www.consumerenergycenter.org) or call (800) 555-7794 for a list of rebate opportunities.

6. Applications for systems receiving electricity from a local publicly owned electric utility will be processed on a first-come-first-served basis until the \$8 million in funding under AB 29x is exhausted.

To apply, owners of the affordable housing project must submit the following:

- A copy of the regulatory agreement for the property, title of the property, or equivalent documentation indicating that residency is limited to low and moderate income persons as defined by the Health and Safety Code sections 50052.5, 50053, or 50199.4.
- Utility interconnection agreement indicating that each residential unit has an individual meter.
- Reservation request form and accompanying paperwork as described in "Reservation and Payment Process."
- Documentation or letter indicating receipt of an energy efficiency rebate program administered by the Energy Commission or applicable electric utility provider.

Appendix 1 - Forms and Worksheets

CEC 1038 R1- Reservation Request Form (All technologies)

CEC 1038 R2 – Solar Energy Estimate Worksheet

CEC 1038 R3 - Reservation Confirmation and Claim Form.

CEC 1038 R4 – Minimum Warranty Form

STD 204 - Vendor Data Record

R1

RESERVATION REQUEST FORM EMERGING RENEWABLE RESOURCES ACCOUNT



*RENEWABLE
ENERGY
PROGRAM*

CALIFORNIA ENERGY COMMISSION

Please submit by fax to (916) 653-1435 or mail:

**California Energy Commission
Renewable Energy Program
1516 Ninth Street (MS-2)
Sacramento, CA 95814-5512**

For detailed instructions on completing this form, please see the Guidebook for the Renewable Energy Program. The guidebook is available at: www.consumerenergycenter.org/buydown or by calling **800 555-7794**.

1. Purchaser Information

Name:	Installation Address	Phone: () ()	Fax: () ()
Electric Utility Name	Mailing Address (if different)	Email	

2. Seller Information (Seller of Generating Equipment)

Company	Address	Phone: () ()	Fax: () ()
Contact:	Email:		

3. Installer Information

<input type="checkbox"/> Hired Contractor; License Class and # _____ Expires: _____		Phone: () ()	Fax: () ()
<input type="checkbox"/> Other (qualifies for lower rebate)			
Company	Address	Installer will provide full five-year warranty? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Contact:	Email:		

4. System Equipment

Inverter Manufacturer	Model	Quantity	Rating (W)	Efficiency (3/4 Load)	Inverter includes eligible meter? <input type="checkbox"/> Yes <input type="checkbox"/> No
Performance Meter Mfr.	Model	Quantity	Calculation Methodology		Warranted System Output _____ kwh
Generating Equipment (One or More) <input type="checkbox"/> PV <input type="checkbox"/> Wind <input type="checkbox"/> Other				Inverter Eff * Quantity * Rating(W _{PTC})	Incentive Requested (\$)
Manufacturer	Model	Quantity	Rating (W _{PTC})		

5. Incentive Requested

Other Incentives Source: _____	Net Installed System Cost (before rebate)	Pay to: <input type="checkbox"/> Purchaser <input type="checkbox"/> Seller	Total Incentive Requested
\$ _____	\$ _____		\$ _____

Declaration under penalty of perjury : The undersigned declare that the information provided in this form is true and correct to the best of their knowledge. The undersigned parties will be entering into or have already entered into an agreement to purchase the generating system components listed on this form. All equipment installed is new and unused and has been purchased within the last 6 months. Warrantor pledges the performance and accuracy of the kilowatt-hours generated by the proposed renewable energy generating system. A completed five-year California Energy Commission warranty form (CEC Form 1038 R3) will be provided to the purchaser by the warrantor(s). The described generating system is intended primarily to offset part or all of the purchaser's electrical needs at the site of installation. The purchaser's intent is to operate the system at the site of installation for its useful life or the duration of the lease agreement. The site of installation is located within service territory of the electric utility identified.

Purchaser Print Name _____ Signature _____ Date _____	Generating Equipment Seller Print Name _____ Signature _____ Date _____	Warrantor of System Performance Print Name _____ Signature _____ Date _____
---	---	---

IMPORTANT: Attach a signed copy of the contract agreement or proof of 10% down payment, a copy of a monthly electricity statement and a vendor data record (STD-204) for the recipient of the rebate. Any incomplete reservation request will not be processed and will be returned to the purchaser.

INSTRUCTIONS FOR THE RESERVATION REQUEST FORM (CEC FORM 1038 R1)

Section 1. Purchaser Information

Provide the purchaser name, complete installation address, mailing address (if different from the installation address), phone and fax number and email address. If the physical address of the installation is the retailer's office or personal property, list the supplier of the PV modules or wind turbine. Provide the name of the electric utility serving the installation location.

Section 2. Seller Information

Provide the seller company name and a contact person name, complete address, phone and fax number and email address.

Section 3. Installer Information

Check the appropriate box for whether the system is to be installed by a contractor (include contractor's license class, number and expiration date) or other, such as "owner install." If installed by a contractor, provide the contractor's company name and contact person name, complete address and email address. All contractor's must have an active "A", "B" "C-10" or "C-46" license. Check the box for whether the installer will provide the full five year warranty. A standard five year warranty (Form CEC 1038-R3) must be submitted when payment is requested for systems installed by a contractor. Owner installed systems.

Section 4. System Equipment

Provide the name of the inverter manufacturer, the inverter model, the number of inverters, the power rating in watts, the efficiency at ¾ load and indicate whether the inverter includes an eligible performance (kWh) meter. Eligible inverters and rating information is located on the Commission's website www.consumerenergycenter.org/buydown.

Identify the performance (kWh) meter manufacturer, complete model number and the number of meters. Indicate the calculation method used to determine the system output and the warranted system output value in kWh. For photovoltaic systems for example, Standard Test Conditions kW output x 5 hrs/day x number of days/yr x discount factor to account for various loss factors.

Generating Equipment

Indicate the type of generating technology to be used. Identify the manufacturer name of the generating equipment and the complete model number, the quantity of generating equipment and the rated output (for PV use the PTC rating). Calculate and include the system output by multiplying the inverter efficiency at ¾ load by the quantity of equipment used, by the rating in watts (PTC rating for PV). Indicate the dollar amount of the requested incentive by multiplying the resulting output by the rebate in place at the time the application is received by the Commission.

Section 5. Incentive Requested

Identify incentives expected or received from other sources. Provide the net system installed cost (before rebate). The Emerging Renewables Program (ERP) requires that incentives from other sources be accounted for before determining the rebate from the ERP. Fifty percent of any incentive received or expected from a utility incentive program, a State of California or federal government sponsored incentive program, other than tax credits, must be subtracted from the ERP rebate amount requested. The "Total Incentive Requested" should therefore be based on the rebate in place at the time the application is received by the Commission and the system cost after subtracting other incentives.

Please check the box indicating whether the incentive is to be paid to the purchaser or seller.

Signatures:

The purchaser must always print and sign their name on the form. If the seller is designated as the payee, the seller must also print and sign their name on the form. The warrantor of the system performance must also print and sign their name on the form. Include the date the form was signed by each party.

Attachments: Please attach the documentation necessary to provide the following:

1. evidence of an agreement to purchase and install the system
2. the itemized cost of major equipment and labor
3. evidence of electrical service at the installation location
4. the Vendor Data Record, Form STD-204 (located in the back of the guidebook).

Evidence of an agreement to purchase and install can include a signed copy of the system or equipment purchase agreement(s) and a signed installation contract(s), or proof of 10% down payment of the major equipment price (through invoices or receipts).

If the system will be located at a new residence please include verification, such as a letter from the utility or statement indicating that the system will be connected to the grid.

The estimated energy output of a proposed system is required to be listed on the reservation request form and must be warranted for five years for systems qualifying for the primary rebates. The methodology used to calculate the system's output must also be listed on all reservation request form.

R2

REBATE PAYMENT REQUEST FORM EMERGING RENEWABLE RESOURCES ACCOUNT



*RENEWABLE
ENERGY
PROGRAM*

CALIFORNIA ENERGY COMMISSION

Mail to:
California Energy Commission
Renewable Energy Program
1516 Ninth Street (MS-2)
Sacramento, CA 95814-5512

Record Number _____

Payee Number _____

1. Confirmation of Reservation Amount

Purchaser Name has been granted a reservation of \$ _____ for a _____ kW renewable energy generating system to be interconnected to _____ (utility). The system is being installed at _____ and is expected to produce _____ (kwh per year).

The reservation will expire on _____.

The above rebate payment will be made to Name, address
Assign to another entity ? ☐ YES ☐ NO If yes, attach assignment form.

The generation system must be completed and the claim submitted with the appropriate documentation by the deadline. Claims must be postmarked (or faxed) by the expiration date or the reservation will expire. This reservation is non-transferable. System must be installed at the installation address and sold to the above purchaser.

2. System Equipment Installed

Modules: # Make, Model
 # Make, Model
Wind Turbine: # Make, Model
 # Make, Model
Inverters: # Make, Model
 # Make, Model
Meter: # Make, Model

Total System Price \$ _____

If any information in section 1 or 2 is different note the changes before claiming payment.

The undersigned declare under penalty of perjury that the following statements are true and correct:

- (1) The electrical generating system above meets the terms and conditions of the California Energy Commission's Emerging Renewable Program and has been installed and is operating satisfactorily as of the date stated below.
- (2) The rated electrical output of the generating system, the physical location of the system, and the major equipment identified were installed as stated above.
- (3) Except as noted there were no changes in the information regarding the seller, installer, purchaser, generating system specifications, installation location, or price from that information provided in the Reservation Request Form originally submitted by the undersigned. (List any changes, exceptions or modifications to the information provided on a Reservation Request Form).

Seller	Purchaser
Signature _____	Signature _____
Print name _____	Print name _____
Date _____	Date _____

Attach the following

1. building permit and final signoff
2. final purchase and installation invoice(s)
3. Five-year warranty
4. Utility interconnection agreement

INSTRUCTIONS FOR THE REBATE PAYMENT CLAIM FORM (CEC 1038 R2)

The CEC 1038 R2 form is used to request payment for a completely installed and operational renewable energy system. The form specifies information about the renewable energy system that was to be installed at the time the reservation request was initiated. It also serves as a means of documenting what changes occurred from the time the reservation request was processed until the time the system was installed. The payment request form must be submitted before the reservation expires.

Section 1. Confirmation of Reservation Amount

Please indicate if the rebate payment is to be assigned to a third party. If yes, please fill in the name and address in the space provided and attach the assignment form (CEC XXXXX). The assignment form must contain original signatures. Payees that assign the rebate payment to a third party will still be reported as the recipient of the payment(s) for tax purposes and receive informational tax documents.

Section 2. System Equipment Installed

Provide fill in the equipment information requested including the number of units and the make and complete model number. Enter the total system price. In the box provided, note any changes to the information on the previously submitted reservation request form. If more space is required to note changes, additional pages may be added to the form. Changes in equipment from the original application may affect its eligibility and the amount of the rebate.

Signatures:

The purchaser must always print and sign their name on the form. If the seller is the rebate payee, the seller must also print and sign their name on the form. Enter the date of each signature. Original signatures are required on the form.

Attachments:

Several attachments to the form must also be submitted before the claim will be processed. These include:

- A copy of the building permit and final signoff
- A copy of the final purchase and installation invoices
- A copy of the five year warranty
- The utility interconnection agreement

Building Permit and Final Signoff:

The name and address on the building permit must match the installation address on the payment request form.

Invoices:

The invoices must clearly identify the work that was done and the amount paid. This includes identifying the quantity, make and model numbers of major equipment installed and the labor charge for installation. To meet this requirement you submit a copy of the final invoice(s) or a copy of the final contract(s). The invoice or contract must also indicate the extent to which the Commission's rebate lowered the cost of the system.

The final system price paid by the purchaser should match the price shown on any contract or invoice previously submitted. Any differences must be explained.

Warranty:

Complete and attach the CEC 1038 R3 form in Appendix 1 of the guidebook.

Utility Interconnection Agreement:

The address in the utility interconnection agreement must match the address of the installed system. You may submit the payment request without the utility interconnection agreement if your reservation is close to expiration. This will stop your reservation from expiring, but you must submit the interconnection agreement before payment can be made.

Claiming a Rebate Without a Prior Reservation

To claim a rebate without a previously approved reservation, you must also submit a completed and signed reservation request form (CEC 1038 R1). Please be aware that changes in program eligibility requirements may require costly changes prior to payment for systems without a prior reservation.

Submit Your Request to:

Emerging Renewables Program
California Energy Commission, Accounting Office
1516 9th Street, MS-2
Sacramento, CA 95814-5512

If your reservation is about to expire, you may submit forms by telefax to (916) 653-1435 to comply with the expiration deadline, however, original forms must be subsequently submitted by mail. Faxed claims will not be reviewed until original forms are received.

Allow 30 days from receipt of a complete payment claim application for payment. Payment will be mailed to the retailer or purchaser as indicated on the reservation request form at the address indicated on the Vendor Data Record form (STD-204).

VENDOR DATA RECORD*(Required in lieu of IRS W-9 when doing business with the State of California)*

STD. 204 (REV. 12-94)

NOTE: Governmental entities, federal, state, and local (including school districts) are not required to submit this form.

SECTION 1 must be completed by the requesting state agency before forwarding to the vendor

1 PLEASE RETURN TO:	DEPARTMENT/OFFICE California Energy Commission Accounting Office MS #2 STREET ADDRESS 1516 Ninth Street Sacramento, CA 95814 CITY, STATE, ZIP CODE TELEPHONE NUMBER	PURPOSE: Information contained in this form will be used by state agencies to prepare Information Returns (Form 1099) and for withholding on payments to nonresident vendors. Prompt return of this fully completed form will prevent delays when processing payments. (See Privacy Statement on reverse.)								
2 VENDOR'S BUSINESS NAME SOLE PROPRIETOR—ENTER OWNER'S FULL NAME HERE <i>(Last, First, M.I.)</i> MAILING ADDRESS <i>(Number and Street or P. O. Box Number)</i> <i>(City, State, and Zip Code)</i>										
3 VENDOR ENTITY TYPE	CHECK ONE BOX ONLY <input type="checkbox"/> MEDICAL CORPORATION <i>(Including dentistry, podiatry, psychotherapy, optometry, chiropractic, etc.)</i> <input type="checkbox"/> EXEMPT CORPORATION (Non-profit) <input type="checkbox"/> ALL OTHER CORPORATIONS <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> ESTATE OR TRUST <input type="checkbox"/> INDIVIDUAL/SOLE PROPRIETOR	NOTE: State and local governmental entities, including school districts are not required to submit this form.								
4 VENDOR'S TAXPAYER I. D. NUMBER	SOCIAL SECURITY NUMBER REQUIRED FOR INDIVIDUAL/SOLE PROPRIETOR BY AUTHORITY OF THE REVENUE AND TAXATION CODE SECTION 18646 (See reverse) FEDERAL EMPLOYER'S IDENTIFICATION NUMBER (FEIN) <div style="border: 1px solid black; width: 150px; height: 20px; margin: 5px 0;"></div> IF VENDOR ENTITY TYPE IS A CORPORATION, PARTNERSHIP, ESTATE OR TRUST, ENTER FEIN. SOCIAL SECURITY NUMBER <div style="border: 1px solid black; width: 150px; height: 20px; margin: 5px 0;"></div> IF VENDOR ENTITY TYPE IS INDIVIDUAL/SOLE PROPRIETOR, ENTER SSN.									
5 VENDOR RESIDENCY STATUS	CHECK APPROPRIATE BOX(ES) <input type="checkbox"/> California Resident - Qualified to do business in CA or a permanent place of business in CA <input type="checkbox"/> Nonresident <i>(See Reverse)</i> Payments for services by nonresidents may be subject to state withholding <input type="checkbox"/> WAIVER OF STATE WITHHOLDING FROM FRANCHISE TAX BOARD ATTACHED <input type="checkbox"/> SERVICES PERFORMED OUTSIDE OF CALIFORNIA									
6 CERTIFYING SIGNATURE	<p style="text-align: center;"><i>I hereby certify under penalty of perjury that the information provided on this document is true and correct. If my residency status should change, I will promptly inform you.</i></p> <table border="1" style="width: 100%;"> <tr> <td colspan="2" style="height: 30px; vertical-align: bottom;">AUTHORIZED VENDOR REPRESENTATIVE'S NAME <i>(Type or Print)</i></td> <td colspan="2" style="height: 30px; vertical-align: bottom;">TITLE</td> </tr> <tr> <td style="width: 50%; height: 30px; vertical-align: bottom;">SIGNATURE </td> <td style="width: 20%; height: 30px; vertical-align: bottom;">DATE</td> <td colspan="2" style="width: 30%; height: 30px; vertical-align: bottom;">TELEPHONE NUMBER</td> </tr> </table>		AUTHORIZED VENDOR REPRESENTATIVE'S NAME <i>(Type or Print)</i>		TITLE		SIGNATURE 	DATE	TELEPHONE NUMBER	
AUTHORIZED VENDOR REPRESENTATIVE'S NAME <i>(Type or Print)</i>		TITLE								
SIGNATURE 	DATE	TELEPHONE NUMBER								

ARE YOU A RESIDENT OR A NONRESIDENT?

Each corporation, individual/sole proprietor, partnership, estate or trust doing business with the State of California must indicate their residency status along with their vendor identification number.

A corporation will be considered a "resident" if it has a permanent place of business in California. The corporation has a permanent place of business in California if it is organized and existing under the laws of this state or, if a foreign corporation has qualified to transact intrastate business. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in this state only if it maintains a permanent office in this state that is permanently staffed by its employees.

For individuals/sole proprietors, the term "resident" includes every individual who is in California for other than a temporary or transitory purpose and any individual domiciled in California who is absent for a temporary or transitory purpose. Generally, an individual who comes to California for a purpose which will extend over a long or indefinite period will be considered a resident. However, an individual who comes to perform a particular contract of short duration will be considered a nonresident.

For withholding purposes, a partnership is considered a resident partnership if it has a permanent place of business in California. An estate is considered a California estate if the decedent was a California resident at the time of death and a trust is considered a California trust if at least one trustee is a California resident.

More information on residency status can be obtained by calling the Franchise Tax Board at the numbers listed below:

From within the United States, call 1-800-852-5711
From outside the United States, call 1-916-854-6500
For hearing impaired with TDD, call 1-800-822-6268

ARE YOU SUBJECT TO NONRESIDENT WITHHOLDING?

Payments made to nonresident vendors, including corporations, individuals, partnerships, estates and trusts, are subject to withholding. Nonresident vendors performing services in California or receiving rent, lease or royalty payments from property (real or personal) located in California will have 7% of their total payments withheld for state income taxes. However, no withholding is required if total payments to the vendor are \$1500 or less for the calendar year.

A nonresident vendor may request that income taxes be withheld at a lower rate or waived by sending a completed form FTB 588 to the address listed below. A waiver will generally be granted when a vendor has a history of filing California returns and making timely estimated payments. If the vendor activity is carried on outside of California or partially outside of California, a waiver or reduced withholding rate may be granted. For more information, contact:

Franchise Tax Board
Withhold at Source Unit
Attention: State Agency Withholding Coordinator
P.O. Box 651
Sacramento, CA 95812-0651
Telephone: (916) 845-4900
FAX: (916) 845-4831

If a reduced rate of withholding or waiver has been authorized by the Franchise Tax Board, attach a copy to this form.

PRIVACY STATEMENT

Section 7(b) of the Privacy Act of 1974 (Public Law 93-5791) requires that any federal, state, or local governmental agency which requests an individual to disclose his social security account number shall inform that individual whether that disclosure is mandatory or voluntary, by which statutory or other authority such number is solicited, and what uses will be made of it.

The State of California requires that all parties entering into business transactions that may lead to payment(s) from the State must provide their Taxpayer Identification Number (TIN) as required by the State Revenue and Taxation Code, Section 18646 to facilitate tax compliance enforcement activities and to facilitate the preparation of Form 1099 and other information returns as required by the Internal Revenue Code, Section 6109. The TIN for individual and sole proprietorships is the Social Security Number (SSN).

It is mandatory to furnish the information requested. Federal law requires that payments for which the requested information is not provided be subject to a 31% withholding and state law imposes noncompliance penalties of up to \$20,000.

You have the right to access records containing your personal information, such as your SSN. To exercise that right, please contact the business services unit or the accounts payable unit of the state agency(ies) with which you transact business.

Please call the Department of Finance, Fiscal Systems and Consulting Unit at (916) 324-0385 if you have any questions regarding this Privacy Statement. Questions related to residency or withholding should be referred to the telephone numbers listed above. All other questions should be referred to the requesting agency listed in Section 1.

R3

WARRANTY FORM EMERGING RENEWABLE RESOURCES ACCOUNT

System Information

This warranty applies to the _____ kw renewable energy electric generating system

Description: _____

Located at: Address: _____

What is Covered

This warranty is subject to the terms below, for a period of five years as follows (check one of the boxes):

☐ **All components of the generating system AND the system's installation.** Said warrantor shall bear the full cost of diagnosis, repair and replacement of any system or system component, at no cost to the customer.

or

☐ **System's installation only.** Said warrantor shall bear the full cost of diagnosis, repair and replacement of any system or system component, exclusive of the manufacturer's coverage. (Copies of five-year warranty certificate for the major system components (solar modules, wind turbines, etc. and inverter- MUST be provided with this form).

General Terms

This warranty extends to the original purchaser and to any subsequent purchasers or owners at the same location during the warranty period. For the purpose of this warranty, the terms "purchaser", "subsequent owner", and "purchase" include a lessee, assignee of a lease, and a lease transaction. This warranty is effective from _____ (date of the original installation of the system).

Electrical Output

This warranty covers the system installed with incentives from the Emerging Renewable Program against breakdown or degradation in electrical output of more than ten percent from the estimated output _____ (kWh per year).

Exclusions

This warranty does not apply to:

- Damage, malfunction, or degradation of electrical output caused by failure to properly operate or maintain the system in accordance with the printed instructions provided with the system.
- Damage, malfunction, or degradation of electrical output caused by any repair or replacement using a part or service not provided or authorized in writing by the warrantor.
- Damage malfunction, or degradation of electrical output resulting from purchaser or third party abuse, accident, alteration, improper use, negligence or vandalism, or from earthquake, fire, flood, or other acts of God.

Obtaining Warranty Service

Contact the warrantor for instructions:

Name: _____

Phone: _____

Company: _____

Fax: _____

Address: _____

Signature: _____

Date: _____

R4**SOLAR SCHOOLS PRELIMINARY RESERVATION REQUEST
EMERGING RENEWABLE RESOURCES ACCOUNT**
**RENEWABLE
ENERGY
PROGRAM**

CALIFORNIA ENERGY COMMISSION

Please submit by fax to (916) 653-1435 or mail:

**California Energy Commission
Renewable Energy Program
1516 Ninth Street (MS-2)
Sacramento, CA 95814-5512**
Payee Designation:
 Reserve rebate for: ☒ School District
1. School District

District Name:

Contact Person:

Mailing Address:

Business: ()

Fax: ()

Email:

2. Participating Schools

School Name:

Address:

Business: ()

Fax: ()

Email:

Estimated size of photovoltaic system: _____ Watts.

School Name:

Address:

Business: ()

Fax: ()

Email:

Estimated size of photovoltaic system: _____ Watts.

School Name:

Address:

Business: ()

Fax: ()

Email:

Estimated size of photovoltaic system: _____ Watts.

3. Utility Provider
 Electric Utility Provider: ☐ PG&E ☐ SCE ☐ SDG&E
4. Program Information

How did you hear about our program?

 Have you previously applied for funding rebates from the
Buydown Program?

☐ yes ☐ no If yes, reservation # _____
5. Statement of Energy Efficient Measures
 In each of the participating schools identified on this form and
attached list (if any):

☐ 1. At least 80% of the classrooms use high efficiency
fluorescent lighting (T8 lamps and electronic ballasts).

☐ 2. Other energy efficient measures with equivalent or
greater energy savings to Item 1 (as determined by the Energy
Commission) are in use (documentation attached).
6. System Cost
 We understand that in order to qualify for the full rebate
amount for each of the participating schools identified on this
form and attached list (if any) the total cost for each
photovoltaic system and installation will not exceed \$8.50 per
watt.

Maximum cost of system (watts x \$8.50): \$ _____
Solar Schools incentive requested (90%) \$ _____
7. Information for Additional Schools
☐ See attached for information on other schools submitted
with this application (name, address, phone, estimated size of
system, signature of school official).

**NOTE: Sum of all new systems installed in school district
may not exceed 20kW or equivalent (i.e., \$153,000) to be
eligible for the Solar Schools Program.**
Declaration: The undersigned declare under penalty of perjury that 1) the information provided in this form is true and correct to the best of my knowledge, 2) the generating system/s for which the above noted incentives are sought is/are intended primarily to offset part or all of the purchaser's electrical needs at the site of installation, 3) the site of installation is located within service territory of an eligible electric utility, and 4) the purchaser has received a copy of this completed form.
School District Representative

Print Name _____ Title _____

Signature _____ Date _____

IMPORTANT: Attach the following: (1) a signed copy of the board resolution(s) indicating support for the solar project and intent to purchase a photovoltaic system; (2) a copy of a monthly electricity statement; (3) evidence that energy efficient

measures equivalent to the use of high efficiency fluorescent lighting in 80 percent of the school's classrooms; and (4) CDE letter of approval for curriculum tie-in plan. This form will not be processed without the required attachments.

R5	RETAILER INFORMATION FORM EMERGING RENEWABLE RESOURCES ACCOUNT
Business name: Address:	Phone: () Fax : () Email:
Owner or principle contact:	
Business license number:	
Reseller's license:	
Contractor license number (if applicable):	
Proof of corporate, LLC, LLP or other annual filings, as required with the California Secretary of State (or appropriate state): 	
The above information applies solely to the business identified above: Print Name: _____ Signature: _____ Date: _____	

Appendix 2 - Tips for Consumers

This chapter provides some basic guideline for those who are not familiar with renewable energy systems and may be interested in learning more. The Energy Commission has a variety of sources of additional information about choosing a renewable energy system, finding retailers or estimating a system's energy output. This information can be obtained by calling (800) 555-7794 or visiting the Energy Commission's website at www.consumerenergycenter.org.

D. Choosing a Contractor

Make sure you hire a contractor licensed by the Contractors State License Board. State law specifies that any job that costs \$500 or more (labor and materials) requires the services of a licensed contractor. As with any large purchase decision, the Energy Commission recommends that you obtain at least 2 or 3 bids before selecting an installer or agreeing to purchase a renewable energy system. Your final selection should be based on various factors including company reputation, warranty service, and installed system price. The Contractors State License Board [www.cslb.ca.gov] provides helpful consumer information, has a process to address complaints against contractors, and maintains information about the status of contractors licenses. The Energy Commission recommends that you check the status of the installer's contractor license for your own protection.

E. Choosing a Retailer

The Energy Commission maintains a list of renewable energy system retailers to make it easier to find products in your area. The list is available by contacting the Energy Commission or visiting its web page.

F. How Much Energy Does a System Produce?

The annual amount of energy from an eligible renewable energy system can be estimated and in most cases can be guaranteed by the system retailer or installer. For photovoltaic systems, the annual amount of sunlight energy (insolation) at a given location in California is predictable and typically does not vary more than 5 percent from year to year; however, the annual energy produced by a specific solar system is influenced by many factors. These factors include the orientation (tilt and direction) of the system, wire length and size, shading, module output mismatch, inverter efficiency, module cleanliness, and other factors. A qualified solar system installer should be able to evaluate these factors and estimate an average energy output in monthly or annual kilowatt hours (kWh) for a given system at a specific location. Similarly, the annual amount of wind energy at a given location can be estimated, but is somewhat difficult to

predict accurately without sufficient site wind speed data. It is important to note that wind turbines are rated at a wind speed of 28 miles per hour and some wind turbines do not produce any energy until the wind speed exceeds 12 miles per hour.

Battery backup systems are an option when purchasing a solar or wind energy system and have the advantage of providing power during a utility outage. However, adding battery back-up significantly increases the cost of the generating system, requires additional maintenance, and reduces the useful energy output of the system by about 10 to 20 percent compared to a similar system without batteries.

Be sure to compare the energy output that contractors guarantee in writing before choosing a contractor. The energy output from a system is a much better indicator of the system performance than is the systems rated output. Also, be sure to verify that your system has an easy to read meter installed that measures the energy produced in kilowatt hours. A meter is required by the ERP so that you will be able to determine if your system is operating properly. The utility meter only provides the net energy used at your home but does not tell you how much energy your system produces. You may wish to consider purchasing a pre-designed packaged system to reduce the chance of safety or performance problems with mismatched equipment. Of course, all systems are not the same and may not suit your particular situation. Also, be sure that your system warranty clearly identifies the responsible party for repairing your system in the event of a malfunction or break down. Although you may be able to obtain lower prices by purchasing system components and equipment separately, keep in mind that the money you save may be more than offset by increased installation costs and lower energy output because of mismatched equipment. This, in turn, could affect your warranty coverage.

System prices vary depending on the technology used, equipment type, local labor rates, site conditions, and other factors. The following table lists ranges of system prices and annual energy production that are typical for many photovoltaic and wind energy system installations.

Table 5 - Typical Photovoltaic and Wind Energy System Prices and Energy Production

Technology Type	Typical Energy Production (kWh/year)	Typical Installed System Prices ¹
Photovoltaic Systems ²		
1 kW	1,200 to 1,400	\$7,000-12,000
2 kW	2,410 to 2,810	\$12,000-20,000
10 kW	12,050 to 14,050	\$60,000-90,000
Wind Energy Systems ³		
3 kW	4,990 to 8,500	\$12,000-18,000
10 kW	8,400 to 16,440	\$30,000-50,000

1. Price examples are for 2002. The incentives will decrease to promote similar reduction in price.
2. Manufacturer ratings at standard test conditions. PV calculations based on $(\text{STC kW}) \times 5.5 \text{ hrs/day} \times (365 \text{ day/yr}) \times (0.6 \text{ or } 0.7 \text{ discount factor})$ The discount factor is a rough estimate of various loss factors. See "A Guide to Photovoltaic (PV) System Design and Installation, June 2001, (P500-01-020) for further information.
3. Wind calculations based on manufacturer's predicted monthly energy production for a site with average wind speeds of 11 mph and 14 mph.

Appendix 3 - Criteria for Listing Components as Eligible

This Appendix summarizes the criteria used for listing which components can be used to create a renewable energy system that is eligible for a rebate from the Renewable Energy System Rebate program.

The equipment must meet national or internationally recognized electrical standards or other appropriate criteria. Until the equipment is listed it is not eligible and no funding will be reserved. Equipment that has not met the aforementioned requirements will not be placed on the lists.

A. Photovoltaic Modules

All flat plate photovoltaic modules must be certified by a nationally recognized testing laboratory as meeting the requirements of the Underwriters Laboratory (UL) Standard 1703. For concentrator modules, manufacturers of concentrator photovoltaic systems must provide acceptable evidence to the Energy Commission for each model of system they wish to sell under this program that the module model is listed by UL, or other nationally or internationally recognized testing institution, using test procedures and requirements as appropriate for the intended use.

B. Solar Thermal

No standards exist at present for solar thermal electric generating systems. In lieu of certification manufacturers of solar thermal systems must provide acceptable evidence to the Energy Commission of one year of reliable operation for each model of system they wish to sell under this program.

C. Fuel Cells

All fuel cells must be certified as meeting the requirements of American National Standards Institute (ANSI) standard z21.83-199 for fuel cell power plants.

D. Small Wind

There are two options to achieve eligibility under the Buy-down Program:

All small wind turbines must be certified as meeting the requirements of a small wind turbine-specific safety and/or performance standard adopted by a national or international standards setting body, including, but not limited to IEC (International Electrical Code) 61400-2.

Manufacturers of small wind systems must provide acceptable evidence to the Energy Commission for each model of system they wish to sell under this program of one year of reliable operation of that model of equipment at a site with average annual wind speeds of at least 12 mph.

E. Inverters

All inverters should be certified as meeting the requirements of UL 1741. However, in the case of large inverters, where the size of the inverter is larger than any other inverter previously certified as meeting UL 1741, a reservation may be granted if the applicant submits a signed statement acknowledging that no buydown will be paid for any part of the system unless the inverter passes a field test meeting the requirements of UL 508C and Rule 21 (utility interconnection) at each site. Payment for such a system will only be made when the inverter is shown to meet either UL 1741 or the combined UL 508C and Rule 21 standard.

1. Changes to the Eligible Inverter List

The following changes will be incorporated in the list of eligible inverters. The Energy Commission also plans to review if changes should include adjusting the ratings for inverters with battery-backup to account for losses inherent in battery back-up systems.

- The methodology for rating inverters will be based on the inverter efficiency at three-quarter's load.
- After March 31, 2003, the eligible list of inverters will no longer contain non-grid-interactive inverters.

F. Metering Criteria

Meters must retain the kilowatt-hour production data in the event of a power outage and must be easy to read for the customer's benefit. The meter must measure the total energy produced by the system in kilowatt hours (or watt hours) and have a manufacturer's uncertainty specification of plus or minus five percent.

Systems using components that are not listed as eligible will not be issued a reservation or a payment. If a component becomes decertified according to the testing requirements described below, and is removed from the Energy Commission's lists of eligible components, applicants may be required to modify their systems by replacing the decertified component with a certified component before a payment is issued.

Generating equipment (solar modules, wind turbines...), inverters, and performance meters are periodically added and removed from the lists of eligible equipment.

G. Other Technologies

New technologies may be added by petitioning the Energy Commission, through the appropriate Committee. Applicants must submit the proper documentation satisfying all of the following criteria:

- 1) Financial assistance is required for these technologies to become commercially viable.
- 2) The technology must be commercially available with at least one vendor available for the sale of the system.

- 3) Vendors of any generating systems employing the technology must offer at least a five-year full warranty on the entire generating system.
- 4) The technology must show at least one year of demonstrated reliable, predictable, and safe performance by a full-scale facility using this technology under field conditions.
- 5) The available data must show that generating systems using the technology have a useful design life of at least 20 years.
- 6) The technology must be designed so that it can produce grid-connected electricity.
- 7) The technology represents a new electricity generating process not well-represented among existing grid-connected renewable generating facilities, rather than some evolutionary or incremental improvements to renewable technologies used in existing renewable resource technology generating facilities (examples of such evolutionary or incremental improvements will be a) an improved blade design for wind turbines, b) less expensive well drilling techniques for geothermal, or c) a more efficient burner design for a biomass plant).
- 8) The project must be designed exclusively for the purpose of producing electricity for on-site use or sale (excluding demonstration projects that may sell to one specific customer), in contrast to a research or demonstration facility, which is designed primarily for collecting additional research data.

Appendix 4 - Maximum System Size Calculations

In most cases the system size limitation will not apply to systems <10 kW because the average annual residential electricity consumption in California is about 7000 kWh/yr. Commercial loads are almost certain to be higher. The maximum size of system that would primarily offset this average load, given conservative system production, is about 13 kW ($200\% * 7000 \text{ kWh} / (.12 * 8760)$).

A. Maximum System Size Calculations

The Energy Commission will determine the maximum size of eligible systems as follows:

1. New or expanded site electrical load

In the case of applicants with new or expanded facilities, where there is no electricity bill to attach or where the existing electricity bill does not reflect the applicant's expected expanded consumption, the applicant must submit an electricity bill when the system is complete or submit a signed statement by an architect, engineer or electrical contractor that the requisite electricity consumption is occurring or will occur at the site.

Applicants who are awarded Reservations based on new or expanded loads will only be paid the full amount of their requested reservation once they have submitted a bill that is consistent with their new or expanded estimated consumption and have otherwise satisfied the requirements for requesting a rebate payment. In most cases, applicants with systems 10 kW or less need only submit a bill verifying grid connection at the site of installation.

The Energy Commission will check the submitted electricity bill(s) for usage consistent with the expected load, and calculate the appropriate incentive payment as described above. If the Energy Commission calculates a reduced rebate amount, the applicant may submit subsequent utility bills within the following three months to receive their full reservation amount, provided there are sufficient program funds available at that time to make an additional payment.

2. Peak load capacity option

A customer may submit documentation that the proposed system is not greater than 200 percent of on-site peak demand (in kW) during any month. Documented historical information can be a utility statement within the last 12 months. For a new customer load or addition to present load, appropriate documentation can be a detailed energy use calculation, signed by a licensed electrical contractor.

The Energy Commission will calculate a "benchmark" production for the system using the following formula:

$$\text{Benchmark Energy Produced} = \text{System Capacity(kW)} \times 1050\text{kWh/year}^4.$$

This Benchmark Energy Produced (BEP) will be compared to the estimated annual consumption based on the utility bill submitted with the application. If the BEP is less than 200 percent of the estimated annual consumption, the full rebate requested will be reserved. If the BEP is greater than 200 percent of the estimated annual consumption, then the rebate reserved will be reduced by an amount equal to the ratio between the estimated annual consumption and the BEP.

The Energy Commission will compare the estimated annual consumption to the consumption reflected on the electricity bill submitted with the reservation form. In cases where the estimated annual consumption appears to be inconsistent with the electricity bill submitted (for example, when the monthly consumption shown on the electricity bill is less than 8.5 percent of the estimated annual consumption), the Energy Commission will request additional information from the applicant, and will not process the reservation until satisfactory information is received.

⁴ The annual energy produced by a system is influenced by many factors, including the amount of insolation (sunlight) at a particular geographic location, the orientation (tilt and direction) of the system, the degree of cloud cover, any shading that affects the system, and cleanliness. The BEP calculation above estimates the amount of energy produced by a system with a relatively low 12% capacity factor; that is, a system with relatively poor location, orientation, etc.. This represents a conservative estimate of the energy that will be produced by a system. Most systems, with more favorable characteristics, will produce a greater amount of energy. However, a system installed in a relatively poor location with the intent of offsetting the onsite load should not be rejected through the use of an optimistic or even an average estimate of energy production. Therefore, using the BEP calculation for a relatively poorly performing system allows these systems to be eligible, consistent with the intent of SB 90. Using this calculation for all systems minimizes the administrative cost of predicting the energy produced by the system in relation to the load at the site.

Appendix 5 - List of Publicly Owned Utilities

Alameda Power and Telecom
Anaheim Public Utilities
Azusa Light and Water Department
Banning Public Works
Biggs Public Works
Burbank Water & Power
Colton Electric Department
Glendale Water & Power
Gridley Municipal Utilities
Healdsburg Electric Utilities Department
Imperial Irrigation District
Lassen Municipal Utility District
Lodi Electric Department.
Lompoc Utility Services
Los Angeles Department of Water and Power (LADWP)
Merced Irrigation District
Modesto Irrigation District
Mountain Utilities
Needles Utilities (City of)
Palo Alto Utilities
Pasadena Water and Power Department
Redding Utilities
Riverside Public Utilities
Roseville Electric
Sacramento Municipal Utility District (SMUD)
San Francisco Public Utilities Commission (City and County of)
Santa Clara Silicon Valley Power (City of)
Shasta Lake (City of)
Trinity Public Utilities District
Truckee-Donner Public Utility District
Turlock Irrigation District
Ukiah Municipal Utility
Vernon Utilities Department

Appendix 6 - Atypical Incentive Applications

A. New Housing Development

New home developers may purchase and install renewable energy systems as part of a new development before selling the home. The renewable energy system is often a feature that is included in the new home price. In most cases it is unclear who will purchase the home, when it will be sold, and how much the purchaser pays for the system. Unlike individuals, developers will often purchase the system equipment in bulk and have an agreement with a subcontractor to install systems on various homes in the development.

To obtain a rebate reservation for a new housing development where the sum of individual installed systems will total 30 kW or more, the developer may submit the following items instead of submitting separate documentation for each address:

- 1) **One Reservation Request Form (CEC 1038 R1) for the entire new housing development.** The Reservation Request form must be signed by the homebuilder (purchaser) and the seller (retailer) of the electricity generation system. The Reservation Request form must contain the physical addresses, generating system information, and system cost for each of the systems to be installed. This may be listed directly on the form or incorporated by reference to the master purchase agreement.
- 2) **One master purchase agreement for the entire new housing development.** The master purchase agreement(s) for the equipment and installation labor must contain the following information: signature of homebuilder (purchaser) representative, seller of the equipment, and installer (unless a letter or installation agreement for each subcontractor stating the price charged for specified homes in the housing development is provided); a list of the physical addresses of the system installations; the quantity, make and model of the electricity generating equipment and inverters to be installed at each address; the total cost of the equipment and/or labor. The agreement and total eligible system cost and rebate requested for each address.
- 3) **Vendor Data Record (STD-204) for the recipient of the rebate payment.**
- 4) **Utility Interconnection.** As with other new construction, submit a simple statement identifying the electric utility and acknowledging that proof of interconnection will be provided prior to a payment claim.
- 5) **Building permit and final inspection signoff** (at time of payment) - submit a copy of the electronic building permit record (or building permit) showing final inspection signoff for the housing development or an interconnection agreement listing all of the addresses at which the utility confirms that an eligible electricity generation system was correctly installed. See "Reservation and Payment Process" for additional paperwork required at the time payment is claimed.

B. Systems Installed by Renewable Energy System Sellers or Contractors for Their Own Personal or Business Use

Renewable energy system sellers (retailers, wholesalers, manufacturers...) or contractors installing their own system are expected to complete the installation at a lower cost than most individuals and may not have a full warranty from an independent party. As such, for the system seller or installer who installs his own system at his home or place of business the application will be treated as a self-installed system whether or not an appropriately licensed contractor does the installation. To receive a reservation, the applicant must submit documentation consistent with that of an individual independently buying a system (in most cases the proof of purchase will be an invoice from the wholesaler).

C. Adding to Existing Systems

Additions to existing systems will only be allowed for systems that met past program requirements and were partially funded by participating in the Energy Commission's program. For these projects, the Energy Commission has the records and documentation identifying the equipment that was installed previously and the program warranty and system equipment standards and warranties that were met by the originally installed equipment. The newly added equipment must be selected from the current lists of eligible equipment and meet the current guidebook requirements. Any other additions to renewable systems already installed at a given site must be installed as completely independent systems whose operation is not dependent on the existing system (electrically operating in parallel).

D. Special Requirements for Leased Systems

To ensure that leased systems are not prematurely removed from the site of installation, leased systems must remain at the original site of installation for a period not less than five years. The lease agreement must specify a lease term of no less than five years and must limit the lessor's remedies, in the event of breach, to monetary damages. The lease agreement may not permit the lessor to remove the system from the original site of installation because of the lessee's default or breach of the lease agreement. In addition, the lease agreement must clearly demonstrate that the program rebate benefits the lessee by directly and exclusively reducing the lease payments for the eligible system.

In determining the total cost of leased systems, the Energy Commission will not consider any finance, interest, insurance, maintenance costs, or any lease processing fees.

The rebate for leased systems will be paid to the retailer of the system or to the lessor as the system purchaser. The rebate will not be paid to the lessee.

The proof of agreement to lease must contain two sections. It must contain the proof of agreement by the lessor to purchase the system from the seller as described above. It must also contain the lease agreement between lessor and lessee and identify the physical address of the system, the quantity, make, and model of major system components, the lease term or duration, terms of payment, the total cost of the lease itemized so as to identify the capital cost and any financing, interest, insurance or maintenance cost and any fees, the total amount to be paid by the lessee over the term of the lease, indication that the rebate

benefits the lessee by directly and exclusively reducing the lease payments for the eligible system, and the signatures of both the lessor and lessee.